GrummanWorld™

X-29 Scores Four Perfect Flights

Concept evaluation is next phase for forward swept wing aircraft

It's getting to be routine. The world's most exciting airplane takes off over the desert, performs flawlessly for an hour or so, and comes in for a perfect landing.

The forward swept wing X-29 made its fourth flight on March 1. It took off from Edwards Air Force Base in California at 9:08 a.m. Pacific time, soared to 20,000 feet, achieved a top speed of 284 knots, and touched down an hour and four minutes later.

But this flight was different. It was the last of Grumman's test flights under the initial phase of the contract, and when it was over, Grumman officially handed the plane over to the Air Force.

Kurt Schroeder, the X-29 project pilot, was in the cockpit for the final run. The first three flights were made by Grumman chief test pilot Chuck Sewell on December 14, February 4 and February 22.

"It was a joy to fly," said Schroeder. "In this flight we were looking at stability and control in various flight control modes, and the plane did just fine. We wanted to get up there early to take advantage of the low winds – it was a beautiful day for it."

Schroeder also checked out the jet fuel starter, which re-starts the engine in case it goes out during flight. He fired the starter at 20,000 feet, and it performed accurately.

The Grumman flights determined the X-29's air worthiness. Flight test and evaluation continues under NASA, with a five-pilot team: Sewell and Schroeder from Grumman, Steve Ishmael and Rogers Smith from NASA, and Lt. Col. Ted Wierzbanowski of the Air Force. In addition, 34 Grumman mechanics and ground and flight test engineers will stay on at Edwards to help support the program.

Over the next few months, the NASA and Air Force pilots will learn to fly the X-29. Then, in the beginning of June, the plane will be returned to Grumman for software modification.

In its present state, the X-29 can be flown only at subsonic speeds, up to Mach .6 at 30,000 feet. With additional software, the plane will be cleared through supersonic speeds and altitudes of 50,000 feet. Grumman will make two test flights and then deliver the modified aircraft by August 1.

Says program director Bob Roemer, "We can take a deep breath now that the first four flights are over. I guess for many of the people on the program there's some feeling of letdown as Grumman's involvement lessens. But we're looking forward to the next part, the concept evaluation phase."

This summer, with the new software in place, pilots will push the plane to its limits, determining whether the advanced technologies that were built into the X-29 should be included in the next generation of tactical aircraft.

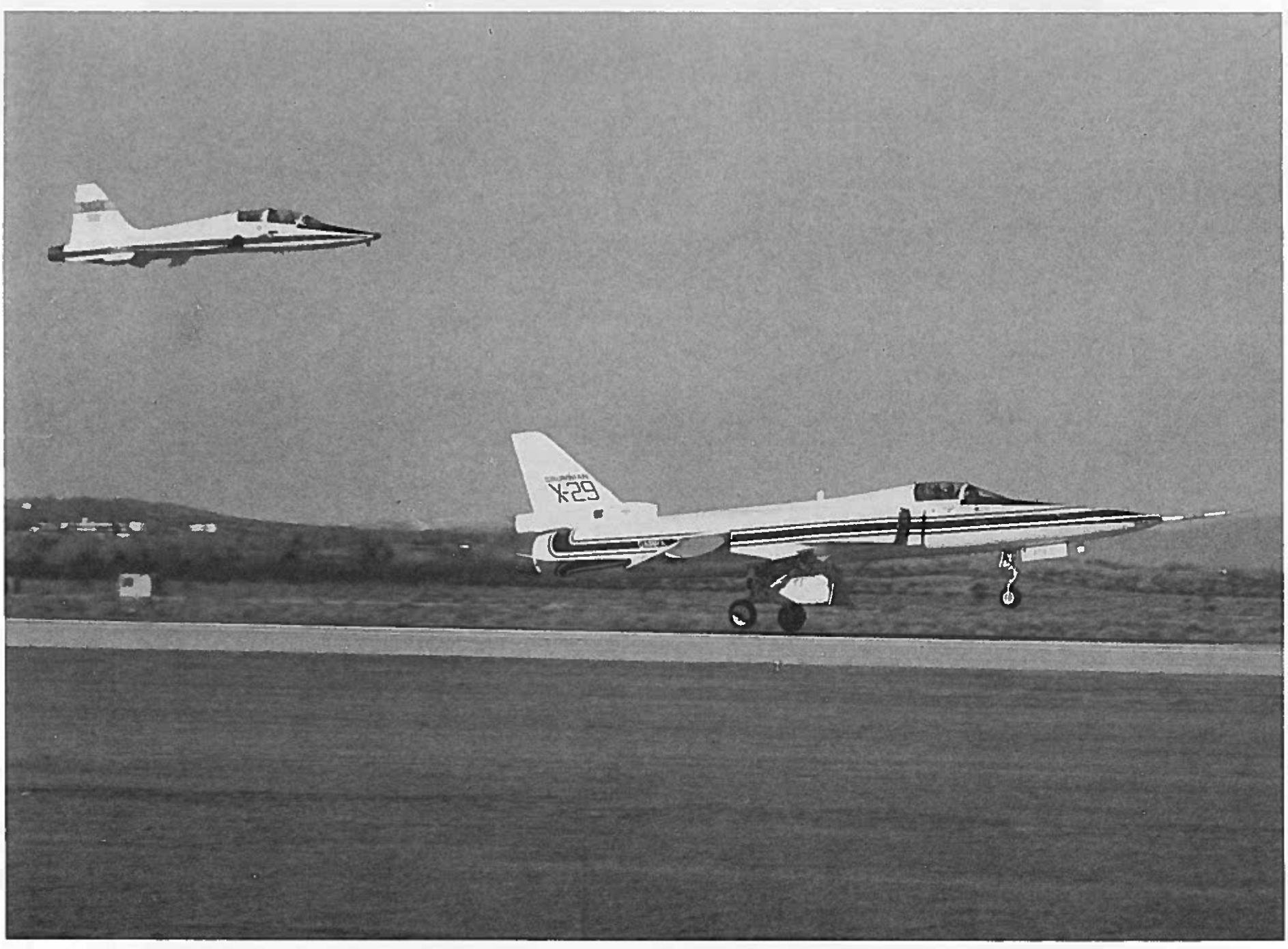
They will put the dream to the test.

Photos by Rich Breunig

Fourth flight. Over the Mojave Desert, the X-29 takes off and climbs to 20,000 feet. Above it, the Air Force T-38 chase plane gives the pilot added assurance that the X-29 is doing everything he tells it to. *More photos on Page 2.*

Top row, at left: Chuck Sewell gets into his flight gear with an assist from Tom Block of Flight Safety. Both Sewell and Kurt Schroeder (center) will be on NASA's evaluation team along with pilots from NASA and the Air Force. At right, Sewell 'flies' the simulator. The Grumman/NASA team at the ground station at Ames-Dryden (left) was in contact with the pilot on all four flights. Thirty-four Grumman engineers, technicians and mechanics are staying on at Edwards, supporting the program. The X-29 (below) comes in for a perfect landing, followed by a T-38 chase plane.

Photos by Rich Breunig



News And Follow-up

Bierwirth calls LILCO rates a catastrophe for economy

Grumman Chairman Jack Bierwirth has called Long Island Lighting Company's (LILCO) rates the equivalent of an economic catastrophe for Long Island.

"Today's energy costs are already too high," said Bierwirth. "They already discourage investment on Long Island. They encourage the recruitment of Long Island employers to other parts of the country. They discourage the recruitment of skilled people to Long Island."

He made these comments to the New York State Consumer Protection Board at a March 7 hearing on phasing the costs of LILCO's Shoreham nuclear plant into consumer electric rates.

Bierwirth said that if LILCO could accept a write-off for Shoreham of about half its cost, or $2.5 billion, and phase in the remaining $2.5 billion over the next 10 years, that would mean an increase of $800 million by the 10th year.

"As a businessman, I do not see how this economy can survive the kind of rate increases we are discussing," said Bierwirth.

"The Shoreham catastrophe is too big for Long Island. If we're to survive it, we must very soon develop the consensus and the will to deal with it — and even then we will need help.

"There are a number of possible solutions, but all of them are beyond the capability of LILCO acting alone.

"Or Suffolk County, New York State, or any other interested party acting alone.

"Not until everyone concerned sits down together to work out a solution is any solution possible. It must be a solution that imposes no significant further increase in the cost of electricity on Long Island. It must begin with completing the transmission lines under the Sound to connect Long Island with upstate and Canadian power sources — which, ironically, are in excess — and perhaps as well with the New England grid, which would link us to the entire Northeast.

"All the solutions involve hard choices. But as we have avoided the hard choices, we have watched the cost of Shoreham go to $4 billion and head toward $5 billion. The longer we wait to face them, the harder the choices become.

"The catastrophe is upon us," said Bierwirth. "We cannot wish it away or scold it away. Now we can only deal with it, before it deals with us."

Third Shuttle Trainer readied for NASA

Shuttle Training Aircraft Number Three (STA-3), the third Gulfstream II executive jet modified by Grumman for NASA use as a space shuttle orbiter training vehicle, completed its first flight on March 7.

The $14 million program includes all structural and wiring changes, cockpit conversion and installation of special engine thrust reversers. After conversion, the aircraft is used to simulate the flight characteristics of the space shuttle orbiter in pilot training operations.

Shuttle pilots are required to take a minimum of 30 flights in the STA, making approximately 800 landing approaches, during their training.

Structurally, the cockpit conversion includes the installation of all orbiter simulation equipment — new rudder pedals, throttle, rotational hand controls, speed brake, flight display instruments and cathode ray display.

Before STA-3, Grumman modified two other Gulfstream aircraft for NASA.

Work began on the STA-3 in November 1983. The job was more extensive than the previous modifications because NASA gave Grumman an airplane with 10 years flight service. The first two modifications were performed on brand-new production aircraft.

Navy goes Greyhound; saves $102 million

The first reprocured C-2A made a debut flight over Long Island last month.

The C-2A Greyhound is being hailed as a welcome sight for carrier-based personnel and taxpayers alike.

The wide body cargo plane, last built by Grumman in 1968, represents the U.S. Navy's first multi-year aircraft procurement. Estimates show this $678 million contract is currently saving the Navy and taxpayers $102 million over its lifetime. At the start of the program, savings were projected at $89 million.

The multi-year agreement guarantees that the Navy will purchase 39 C-2As from Grumman over a five-year period. By eliminating the uncertainties of yearly procurements, Grumman is able to make long-term investments in materials and tooling. The company and its suppliers realize savings through the purchase of large volumes of inventory and the establishment of efficient production lines.

Similar in appearance to the E-2C, the Greyhound has a wider fuselage and can carry 28 passengers, or a five-ton payload. The plane will serve as the primary link between land and sea, delivering cargo as important as jet engines — or letters from mom.

Grumman's six aircraft programs with the Navy now account for 40 percent of their fixed-wing aircraft budget. This year the Navy is investing in excess of $3 billion in Grumman airplanes.

The Greyhound began its comeback several years ago when the Navy scheduled Grumman's C-1A cargo plane to be retired by the mid-1980s. Of the aircraft considered to replace the C-1A, the Greyhound was selected because it could satisfy budget and performance requirements. A field-proven design ensuring on-time delivery was also a factor in the Navy's decision.

The reprocured plane incorporates many improvements over its predecessor. More powerful engines and new avionics systems are featured along with an expanded cargo cage and modern loading equipment.

Detail parts are being manufactured in Bethpage while other C-2A work is being done at Great River, New York; Milledgeville, Georgia; and Stuart, Florida. At the program's peak, more than 1,000 people will be working on the Greyhound.

Current production plans call for the annual delivery of eight C-2As to the Navy from 1985 to 1988, with the final seven slated to arrive the following year.

The first five reprocured C-2As are scheduled for duty with the Mediterranean fleet. Later Greyhounds will be used at Naval stations in the Philippines and other sites.

Grumman seeks $1 billion stamp of approval

To uphold their motto to deliver the mail through snow, rain, or heat not only takes the perseverance of the letter carriers, but a tough fleet of vehicles constructed to endure the endless pounding from city potholes and rural roadways.

The U.S. Postal Service is now road testing a specially designed Grumman delivery truck. The evaluation could lead to a $1 billion contract for 99,150 vehicles over an eight-year period.

Grumman began working on plans for a new delivery vehicle four years ago when the postal service began formulating its requirements for a truck fleet. The postal service requirements specify that the new vehicle last 24 years.

The Grumman truck features an all-aluminum body mounted on a General Motors Corporation chassis. It is more comfortable and more fuel efficient than current postal vehicles; it can also carry more cargo. The 108-cubic-foot, right-hand drive truck can carry at least 1,000 pounds, and has been designed to meet all postal requirements.

Modular construction simplifies maintenance by allowing subsystems such as the engine or transmission to be easily replaced. Several body configurations were tested in a GM wind tunnel before the final entry was submitted.

Grumman is the prime contractor, with GM participating as a major subcontractor. There are two other companies competing as well. The Grumman truck is now undergoing 24,000 miles of rigorous driving at a test track in Laredo, Texas. The new mail truck is scheduled to begin replacing the current line of local delivery vehicles in 1986.

EADS equals $42-M for GDS

The Data Systems division recently won a five-year $42 million contract to provide a major computerized engineering system for NASA.

Grumman will install, integrate and maintain the Engineering Analysis and Data System (EADS) at NASA's George C. Marshall Space Flight Center in Huntsville, Alabama. The company is teamed with a Huntsville firm called New Technology, Inc., which will add communications and networking expertise.

EADS is a large-scale computer system that combines a high-speed supercomputer with several mainframes for engineering work. The system features advanced graphics capabilities, such as three-dimensional modeling and image processing, along with high capacity storage.

NASA will use the system to perform analysis on such things as the main engines of the Shuttle. The system's processing and advanced graphics capabilities will be used to study thermal, electrical loading and structural design characteristics.

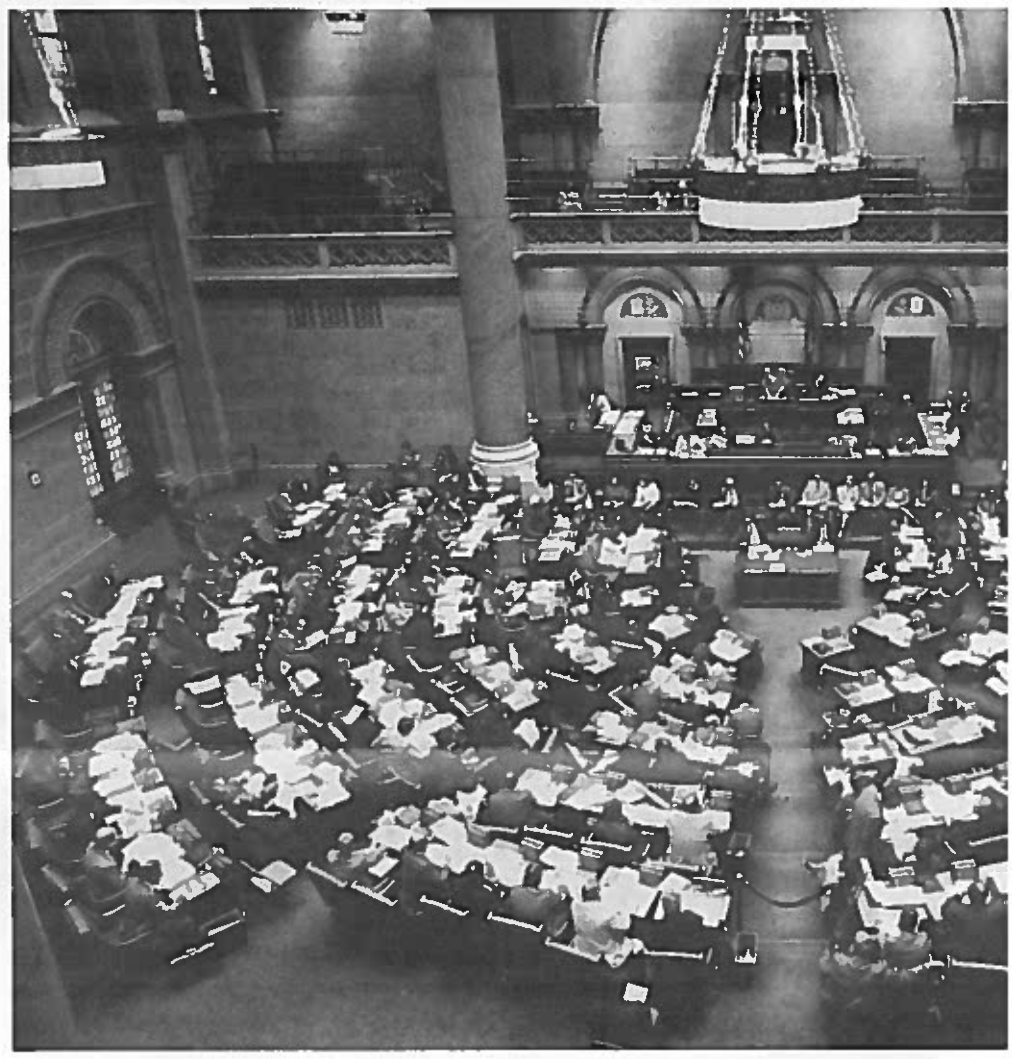
The system being designed for the Marshall Space Center is similar to one now used by Grumman engineers. Two main computers and two smaller processors will be linked to a large supercomputer.

GDS will begin installation of the system in June. After a series of acceptance tests, NASA is expected to be operating EADS in October 1985. Late in 1986, Grumman will add the high-speed supercomputer to the network. Ten people will work on installing EADS this year and eight will stay on in support. The contract runs through 1990.

Capitol Gains

Working with the New York State Business Council and other State agencies gives Grumman new recognition

(Clockwise from the right) Governor Mario Cuomo (left) and Grumman Chairman Jack Bierwirth (right) at a press conference with Power Authority Chairman John Dyson. (Far right) An exterior view of the state capitol building in Albany, New York. The structure, completed in 1899, took 32 years to build. (Center) Raymond Schuler, president of the New York State Business Council, sits down to hear what Grumman's Jack Carroll (foreground) and Bob Fitzpatrick have to say. (Below) Fitzpatrick and Carroll huddle with Grumman's Desmond Ryan in the capitol. (Center left) The state assembly chambers during full session.



By Jerry Mikorenda

"Five years ago, if someone in the state government had been asked to name the most important companies in New York, we'd probably have been forgotten," says Grumman Chairman Jack Bierwirth.

"Today, it's clear that Grumman is recognized for its involvement in state issues."

Support in the State Capitol in Albany during 1983 helped Grumman obtain less expensive nuclear power from upstate New York. This power, approved only for limited industrial use by state law, became available to Grumman when Airco Inc., no longer required it.

Recently, the Public Service Commission approved plans to build a 340,000-volt power line from upstate Marcy to Dutchess County. The 184-mile power line could be in place by 1990 and save Long Islanders more than $28 million a year by importing Canadian hydropower.

Grumman has actively supported legislation for the Marcy-South line along with state efforts to clean up the environment, cut taxes and repair roadways.

"Tax matters, transportation issues, environmental concerns and energy issues all have a bearing on the cost of doing business," says Jack Carroll, vice president of community affairs, who coordinates Grumman's efforts in state government. "It's important for Grumman to be heard on these matters and participate in setting public policy."

Grumman's increasing role in state affairs is perhaps best exemplified by Bierwirth's work with the New York State Business Council. He served as vice chairman of the Council during 1983, and was appointed its chairman for the 1984-1985 term.

The Council, headquartered in Albany, is the largest business lobbying group in New York and represents one-third of the state's private sector work force. Its 3,200 member companies range in size from General Electric, IBM, Kodak and Grumman, to smaller firms such as the Specialty Insulation Manufacturing Company, which employes 25 people in the Albany area.

Bierwirth sees reducing the personal income tax as the most important economic issue facing New York – and the area of greatest concern to the Council.

"The high income tax is a big detriment to increasing the number of private sector jobs in New York," says Bierwirth. "Surrounding states have significantly lower personal income tax rates than New York."

For instance, New Jersey has a 3.5 percent maximum rate, compared to New York's 10 percent.

"Last year the decision was made not to reduce taxes, but to increase state aid to education. From society's view, you can't argue with that. However, this year the time for a tax cut has come," adds Bierwirth. The Council supports a phased reduction of the personal income tax, from the current 10 percent to 9 percent or lower.

Recently, Governor Mario Cuomo outlined a tax-cut proposal along those lines. The Governor's plan calls for the personal income tax rate to be lowered this year from the current 10 percent to 9.5 percent and eventually to 9 percent by 1987. The three-year program will reduce taxes in New York State by $1.2 billion. Before any tax cut can go into effect, it must be approved by the legislature.

"Cutting the income tax sets the stage for real economic growth to take place in the state," says Bierwirth. "Fortunately, in Governor Cuomo we have someone who believes that when business and government get together, the development of new jobs takes place more effectively."

The tax which affects Grumman the most is the corporate franchise tax. This 10 percent franchise tax is levied against all companies that transact business in New York State. The Business Council would also like to see this rate lowered. Its present high rate discourages businesses from locating or expanding in New York. States trying to lure business away from New York have the advantage of franchise tax rates averaging 6 percent.

"It hurts New York, and it hurts us," says Doug Dahlgard, director of taxes for Grumman Corporation. "When you consider all the costs connected with doing business in this state, the projected overhead rates can price you right out of a contract."

Dahlgard is one of six Grummanites serving on Business Council committees, from health and energy to tax improvements. As experts in their professions, these Grummanites provide the Business Council with insight and background on complex issues.

Recommendations made by Dahlgard, and other Grummanites serving on Business Council committees, are fed to legislators trying to enact changes in current laws. Developing a reputation as a reliable information source gives Grumman a chance to express how state actions affect company business.

During 1983, the governor named six Grumman executives to serve on state committees, or councils. The appointments have helped private industry and state agencies understand each other better.

Ed Siebert, director of productivity for Grumman Aerospace, spent almost a year in Albany as a consultant to the State Division of Youth and the Transportation Department.

"Basically, I helped them establish a management information system that could pinpoint various projects that are adaptable to computers," says Siebert. "The Transportation Department needed a statewide network to coordinate tasks such as road repairs with budgets and materials."

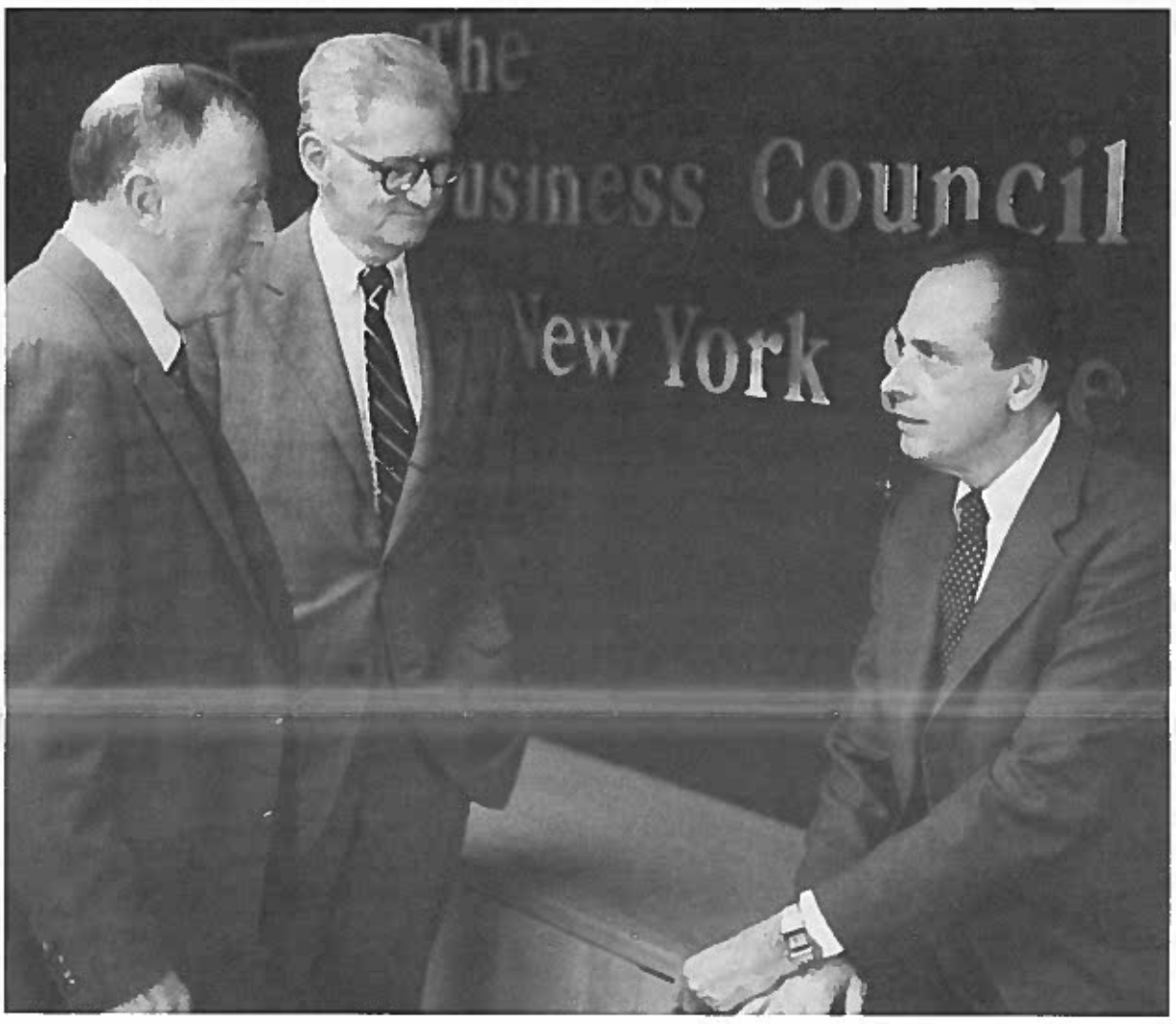
Thomas Tyree, assistant commissioner of operations for the department, hopes Siebert's plans will help New York efficiently use large increases in federal transportation aid over the next four years. He reports Siebert's recommendations are now being implemented.

"What we have is a blueprint for the future that will centralize planning and dramatically increase our productivity," says Tyree.

In other instances, Grumman has broadened its scope of responsibility to include issues that reach beyond business concerns. When New York formed a Superfund Management Board last year to oversee the cleanup of toxic waste sites in the state, Grumman volunteered to provide a representative to serve on the seven-member board. Bob Fitzpatrick, vice president of product integrity and environmental protection, was one of two chosen from industry.

"We are all quite concerned about the dangers of groundwater contamination on Long Island," says Fitzpatrick. "Because the Island is totally dependent on this ground supply for clean water, it was logical to choose someone from this area to serve on

Photos by Rich Breunig



the board."

As a member of the Superfund board, Fitzpatrick took an oath of office to serve as an objective voice for the people of New York.

During the 10 months of meetings and hearings, he helped provide the Department of Environmental Conservation (DEC) with the expertise needed to manage and define the toxic waste problem. There are 895 known or suspected hazardous waste sites statewide. The DEC estimates the average cleanup cost per site to be $6.6 million.

"We took a pragmatic approach and set up the operation as if it were a company — the product being the cleanup service," explains Fitzpatrick. "We helped the DEC in planning to staff, monitor and schedule a large project."

Last spring, Grumman coordinated a series of conferences for the Commerce Department, targeted at helping subcontractors win defense contracts.

"We are trying to work with the state to get more defense dollars for small businesses throughout New York," says Frank Sorrentino, Grumman's small business/minority business liaison officer.

Five seminars were held across the state, attended by 827 firms. The one-day sessions paired representatives from New York's 24 prime defense contractors with those from small companies. By showing small companies how to properly bid on government work, the Commerce Department hopes to bring more defense dollars into the state economy.

Currently, New York subcontracts $675 million a year worth of Pentagon business to companies outside the state. In the future, the Commerce Department is considering taking qualified subcontractors to other states with large military manufacturers in an effort to capture even more defense dollars for New York.

"I think we all realize this is a pretty good place to live," says Bierwirth. "But in order for New York State to survive, it has to remain competitive with the rest of the country. It's our responsibility to create the kind of business climate to insure that."■

Grumman Repair Centers Rescue Fire Trucks

Busted or rusted, Grumman takes these vehicles from the junkyard to the showroom

Jay Mundy paces around the fire truck with his face drawn in a frown.

"Boy, I remember some of these trucks leaving the plant brand new, and they come back looking like this," he says, shaking his head in disappointment.

To the untrained eye, this ladder truck from a Westchester, New York, fire department does not seem to be in bad shape — in need of simonizing and a few dabs of paint, nothing major.

"Yeah, but it's what you can't see that ruins a fire truck," adds Mundy. He points to the steel sheathing on a fender like a master detective who has just discovered a missing clue.

"See this white film on the bumper and along the rim? That's a sure sign of corrosion underneath," he says. When the sheathing and other fixtures are removed, it becomes apparent the truck is in far worse shape than it appeared. Unfit for duty; just as Mundy had predicted.

Mundy is manager of Grumman Emergency Products' service center in Vinton, Virginia, and he makes determinations like this one all the time. The service center is where fire departments bring deteriorating and outdated equipment to be upgraded and overhauled. Emergency Products operates a similar repair facility in Pittsburg, California.

"Sometimes we get trucks in here so busted up, about all we can save is the chassis," says Mundy.

For the Grumman crews, the job sometimes entails driving out to the scene of the accident in the middle of the night, or working 24-hour shifts to repair the only fire truck of a small rural town. What makes fire departments bring their broken down equipment to Grumman instead of the junkyard is economics.

"Departments today have to be careful how they spend their money. On the average, purchasing a new fire truck costs three times as much as refurbishment," says Bill Bruns, director of customer service. "Rebuilding a truck can add 10 to 20 years of life to the vehicle."

Bruns reports that most major fire truck manufacturers perform repair work as part of an over-all service package for their vehicles. However, Emergency Products' refurbishment centers provide independent service. They will fix any competitor's equipment as well as their own.

"Often, departments who have never heard of Grumman before come to us just for a repair job, and it helps get our foot in the door."

Grumman went into the fire equipment repair business as a full-time venture in 1980. Since that year, service sales have more than tripled.

The repair center in Vinton and the Pittsburgh facility employ 60 people. Each site can handle at least 15 trucks at a time.

Refurbishment is not the only work done at the Vinton center. The Skiddy Cat is built there along with certain customized elements for production vehicles.

"We've also begun rebuilding trucks for Grumman Olson as part of their nationwide network of service centers," says Bruns. "Although it's a very regional business for Olson, we're hoping to develop a backlog and add a separate crew for this work."

Bruns states that there are 25,000 fire departments in the United States, with each department owning an average of five vehicles. Generally, a fire truck should last about 20 years, depending on the care it receives. Estimates show there is a potential market for 5,000 fire truck refurbishments over the next several years.

Bruns believes Grumman can double its share of the fire truck repair business in 1985. Future plans may include opening a Midwest service center and providing parts kits for a repair program in Mexico.

"This has always been a profitable line of work for us, but it's also helped our overall business in an intangible way," says Bruns. "Often, departments who have never heard of Grumman before come to us just for a repair job, and it helps get our foot in the door."

In one such instance, Grumman repaired a ladder truck for the Brummall Fire Department in New Jersey. They were so impressed by the work, they ordered a Grumman pumper without putting the contract out to bid.

Because of the expense involved in bringing a fire truck to the service centers, most repair jobs are solicited through the mail. Often Bruns receives a snapshot of the truck in question and has to make an estimate and decide whether or not Grumman should take the job.

"We don't always get a lot of information, but we try to be as precise as possible," says Bruns. "If we can do a job for a certain margin of profit, we'll take it."

For larger jobs, one of the four salespeople who handle service work for Grumman will visit the customer's facility, examine the vehicle, and make a quote.

Estimates show there is a potential market for 5,000 fire truck refurbishments over the next several years.

Repairing a truck may call for the mechanical and engineering expertise to mount stronger springs and front axle on a ladder truck in Leonia, New Jersey, or the craftsmanship to reconstruct a 1932 Howe fighter for the Rocky Point, Long Island, department.

"We had to find parts for that one through antique dealers and collectors," adds Mundy, scratching his long sideburns. "What we couldn't purchase — from fenders to brackets — was handmade here in the shop."

That 1932 truck was a mere nine years old when Mundy joined the Howe Fire Apparatus Company in 1941.

"Most fire chiefs are surprised when they come in here and see a parts list; it goes against the nature of the business."

"When I started, your basic fire truck had one hose reel, a small booster pump and water tanks made of copper. It was a very customized business; each truck was just about hand made to a department's specifications, and we rebuilt trucks the same way. Grumman changed all that," he says.

After acquiring Howe in 1976, Grumman began applying modular construction techniques to fire truck design. Now, when a rusted compartment or panel needs to be replaced, a new one is taken from inventory and installed.

"Most fire chiefs are surprised when they come in here and see a parts list; it goes against the nature of the business," says Bruns. "By standardizing Grumman's line, we've had to show people how our product can do their job — and also how it will save them money."

Ken Clay, chief of the Collinsville Fire Department in North Carolina, believes fire fighters should be very particular when purchasing equipment.

"Fire fighters don't want to risk their lives on a truck someone else thinks is good enough. They have to know a piece of equipment is going to work," states Clay.

His stop at the repair plant is part of a weekly ritual that began a

Photos by Rich Breunig

A pump and chassis were the only items saved from this Blacksburg, Virginia, truck.

Corrosion from road salt is a common problem for vehicles brought to the Vinton repair center.

Running boards and all. Handmade pa bring a 1932 Howe pumper back to life

month ago when his 1974 Howe pumper was brought in for a coat of paint and aluminum running boards.

"People can't believe our truck is 10 years old — and I want them to be just as surprised at its age in another decade," he adds.

For East Coast fire departments, rust is the primary reason for refurbishment. However, the West Coast center encounters a different kind of challenge.

"Damage from road salt and the damp eastern climate are the main reasons trucks come to the Vinton Center, but out West most of our jobs consist of engine conversions," says Bruns.

With new federal emission standards going into effect this year, fire trucks will need very elaborate exhaust apparatus to comply. These new systems cause a tremendous amount of heat.

"To us, the most important thing is to keep fire trucks in service... and looking brand new."

"Normally that wouldn't cause major problems, but a fire truck operates under a unique set of circumstances. For long periods of time it remains stationary, yet must run its engine," says Wayne Kindred, general manager for the West Coast center.

Kindred says that because diesel engines can handle higher operating temperatures, many departments are now converting gas engines to diesel.

Although the Pittsburg center is already the largest fire truck repair facility on the West Coast, Kindred feels there is room for improvement.

"We're hoping to eventually put through a truck a day and generate long-term contracts," he adds. "It's not unusual for a truck body to last 20 years out here, so we have to concentrate our business on preventive maintenance."

By performing routine service on such things as transmissions, pumps and fuel filters, Grumman can become more aware when major overhaul work is needed.

"To us, the most important thing is to keep fire trucks in service," says Kindred, "and looking brand new."■

"... it's what you can't see that ruins a fire truck," says Jay Mundy.

nd antique dealers helped

Applying that golden touch: Lettering fire trucks calls for perfect script

Horse-drawn pumpers, steam engines and clamshell fenders have disappeared from fire trucks, but there is one tradition left that links today's modern vehicles with the past.

"You can produce the best fire truck around, but if the lettering doesn't look right, a department isn't going to accept it," says Fred Foutz, a lettering artist at the Vinton repair center.

While many manufacturers now slap decals and stick-on lettering on their trucks, Emergency Products' calligraphists still practice the old-fashioned art of gold leafing. There are two of these specialist at the Vinton plant and five at the Roanoke plant.

"In the old days, 24 carat gold was hammered down until it was tissue thin, and then formed into letters," says Foutz. "Today, the gold comes on a roll of tape, but it's just as pure."

Before actual lettering can begin, Foutz goes over a customer's requirements, making sure he has the correct lettering style and wording. Grumman offers a standard block lettering, but script, Old English, and many variations in between are also available.

Standard lettering on a door takes about a day to complete. To begin, Foutz sketches the words on tracing paper to make sure it fits the space provided. Using a special hole punch machine, he then traces the letters.

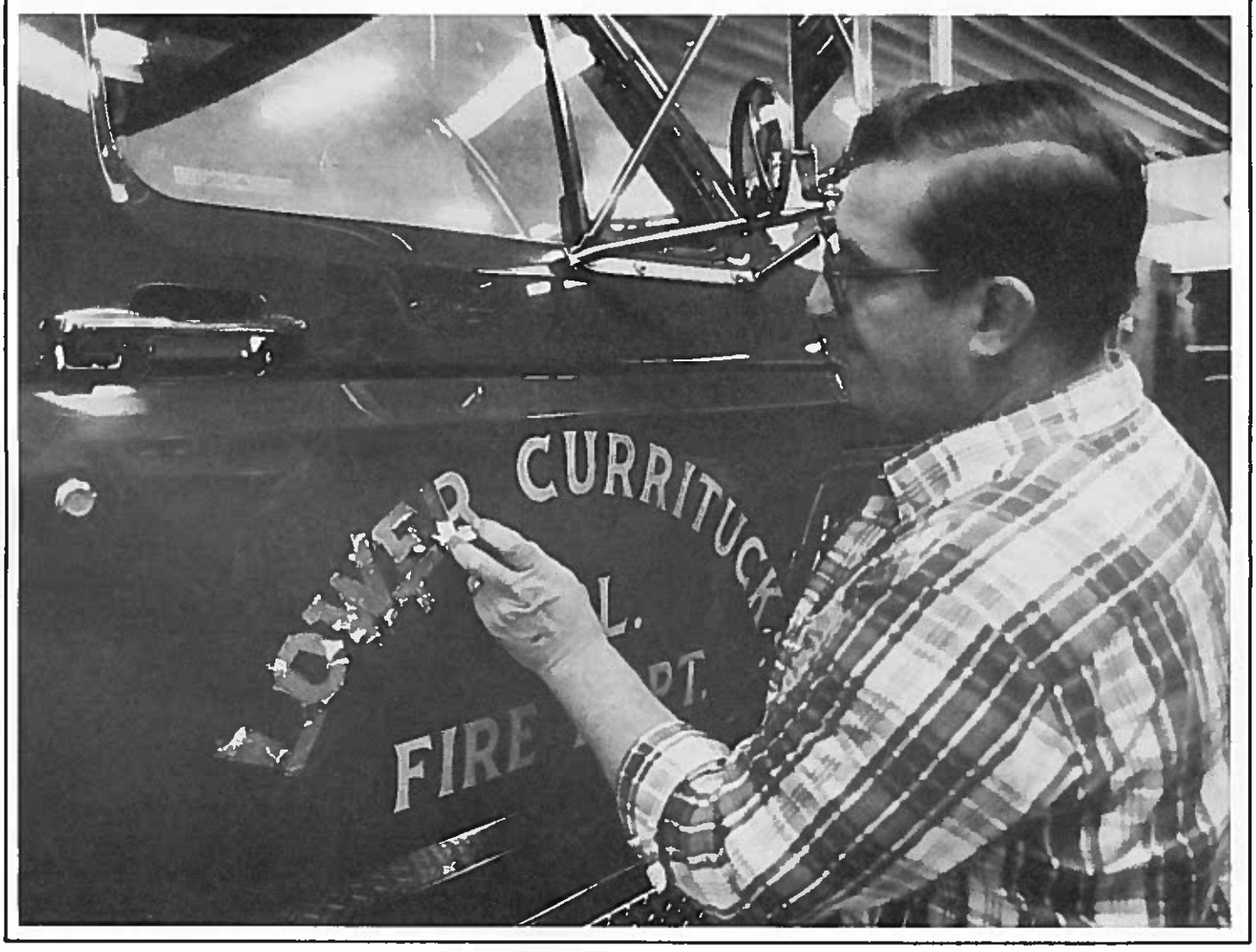
"I'll position this paper on the door and go over it with a fine powder to leave an imprint," he continues.

To form a base for the gold to stick to, Foutz fills in the letters with a homemade mixture of primer. Once that is done, the gold tape is rolled over the painted area. Excess gold is removed with a cotton cloth.

"Later on I'll take a piece of velvet and rub tiny circles in the gold to give it luster and shine," says Foutz. "We then highlight the letters in black and coat them with clear lacquer for protection."

Lettering is not the only service provided. Mike Holman, also a lettering artist, says emblems, Indian heads and town mascots are among the most popular items requested.

"I remember the most elaborate job we did was for a department in Connecticut," adds Holman, whose father had been an artist in the company for 30 years. "They wanted us to copy this beautiful painting of a fall scene on the door of their truck. It had a stream, mansion, deer, you name it. When we finished, one of the firemen said if they ever got rid of the truck, he was going to frame the door."



Pride And Profit: Tale Of A Sales Force

Grumman's nationwide sales force builds a market for commercial products

"In the old days salesmen were known for hard living and fast talk, but that's all changed. Today, selling is a profession that takes a great deal of technical expertise," says Grumman salesman John Norton. "You can't afford to waste time when you might only get one shot to make a sale."

Norton, who travels extensively in Pennsylvania for Grumman, is part of a nationwide sales force used to market aluminum trucks. Throughout Grumman's Vehicle and Marine division, commercial products are moved along by salespeople, independent dealers and distributors. These people are responsible for maintaining inventory, and for servicing and marketing Grumman products.

"You have to sell a product before you can build it," says Norman Kossoff, vice president – national dealer sales for Grumman Olson, the division's truck body unit. "A product or company can be done irreparable damage in the field. A sales network is really your business card to the public."

Each product line has its own system. In some instances, salespeople are employed directly by the unit; in others, they are retained on a contractual basis. The entire division uses independent dealers as well to showcase its various products in the marketplace.

"A sales network is really your business card to the public."

"Your sales force has to create a lot of product enthusiasm out there, and that takes a great deal of initiative," says Kossoff. "I know if I call a salesman three times during a week – and get him – then that territory is in trouble."

Kossoff reports that Grumman Olson uses 25 employees to market its trucks across the United States and Canada. These Grumman salespeople, in turn, provide aluminum trucks for dealers. Nationwide, Olson trucks are sold through franchised Chevrolet, General Motors and Ford dealerships. These independent dealers must sell and stock a certain number of Grumman trucks to represent the company. However, Olson salespeople do more than just supply these dealers with vehicles.

"We don't put it all on the stock dealers. We have our salespeople go to the real users and create a need and awareness of our product," says Kossoff.

That's where Norton and his counterparts around the country make their impact. Each salesperson has a particular way of drumming up business. Sometimes, in a new area, Norton will drive through industrial parking lots making notes on the type of trucks used, or follow delivery routes. In the trade it's known as "missionary" work, or soliciting users of a competitor's vehicles. Converting someone to invest in aluminum vehicles takes both subtle and direct approaches.

"We sell product service and quality workmanship," says Norton.

"There are days when a phone booth becomes my office."

To get that point across in a very direct way, Norton will drive a truck to a potential customer's business for a demonstration. He'll point out such things as the truck's durability, structural design and easy handling. On his way out the door, Norton leaves an aluminum business card – a subtle reminder of how Grumman stands out from the competition. Other items, such as note pads and coffee mugs, keep the Grumman name in the customer's mind.

"When you're wooing a potential buyer, you have to juggle a lot of different concerns," says Norton, who was named Olson's salesman of the year in 1983. "Good communication between me, our headquarters and the plants is of the utmost importance. There are days when a phone booth becomes my office."

Each territory has a marketing plan naming key accounts, sales projections and potential buyers. Such reports are valuable to production managers who must schedule the purchase of materials and work loads at Olson's five plants.

"When Grumman first started selling trucks in 1946, we had to work hard to get fleet owners to accept aluminum," adds Kossoff. "Now we have that recognition, but everyone else is pushing aluminum also. Our staff has to be able to show potential customers that Grumman engineering, and 39 years of experience, can make a difference in the truck they buy."

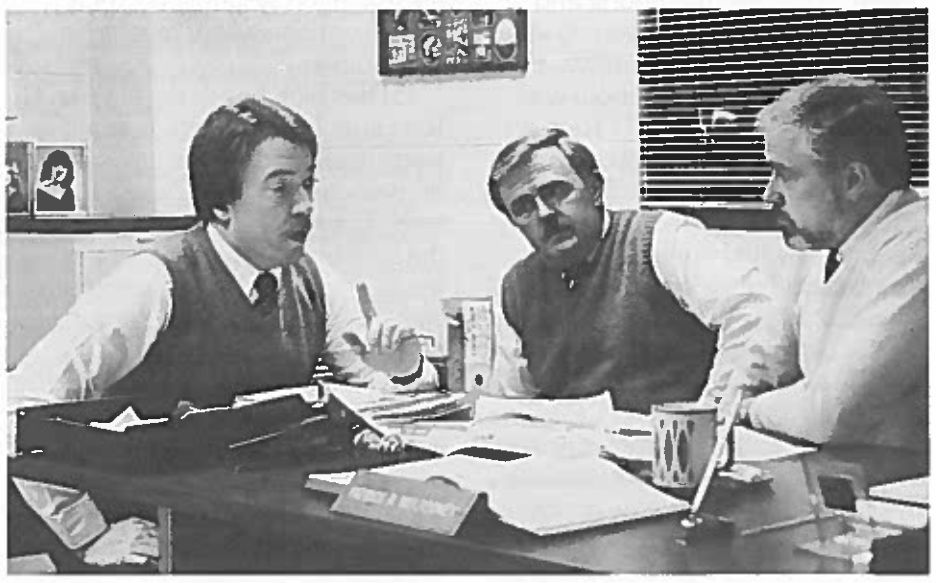
To get that inside information, Olson sales trainees work in the factory for a week to learn how Olson trucks are put together. Then they continue their training in an existing Grumman sales office. On the average, Olson salespeople have 12 years of experience.

Grumman already has 47 percent

Photos by Fred Annette

Salesman John Norton (Center) listens to what his customers have to say.

(Far left) A busy day at Fireline Sales and Service Inc., in Runnemede, New Jersey. Dan Cimini (bottom) isn't always happy about what he hears, but says handling the heat is part of the job. (Above) Norton points out the advantages of the aluminum truck body to buyers from The Philadelphia Inquirer. The newspaper already owns 250 Grumman delivery trucks. Looking for an inexpensive skiff for some summer fishing? Wilson Marina, Fort Lee, New Jersey, (left) stocks a full-line of Grumman boats and canoes. Nationwide, Grumman Boats has 700 dealers.



of the total aluminum truck market — but Kossoff would like to up that figure to 50 percent this year. After several lean years when interest rates topped 20 percent, Olson's sales are expected to climb toward record highs during 1985.

Grumman Emergency Products uses 42 independent sales representatives to market its fire equipment in the United States. These independents sell Emergency Products vehicles under a contractual agreement, which includes meeting certain sales goals. Salaries are paid on commission — a fixed percentage of each sale made.

Dan Cimini is president of Fireline Sales and Service Inc. in Runnemede, New Jersey. His business covers all of New Jersey and northern Pennsylvania for Grumman, but also stocks items such as helmets and oxygen tanks. Cimini is one of the new breed of sales reps that helped boost Emergency Products' sales 23 percent last year. Since 1981, Emergency Products has changed three-quarters of its sales force.

"Better salespeople have been the key to our rise in the market," says George Kubicke, vice president of sales for Emergency Products. "When we overhauled our sales system we wanted to weed out nonperformers, but also add dealers who were willing to make an investment in the business and showcase our products."

To Cimini, that means spending money to make money. He has remodeled his 8,000-square foot service center, and his investment has paid off. His dealership is the top fire truck seller in New Jersey. Emergency Products is also number one in North Carolina, Louisiana and Alaska.

A company can gain a clear advantage by aligning itself with aggressive dealerships — but it is equally important for dealers to seek the right relationship with a company.

Tony Tentila opened Sunset Sporting Goods three years ago. He caters to fishermen and hunters in the New Paltz, New York, area and most of his sales are in boating equipment. He wanted to market Grumman's aluminum craft for several reasons.

"For any dealer, it's very important to have a company that protects your interest. With Grumman I have a guarantee that they won't place another distributor within a 30-mile radius," says Tentila. "So if I do my job and sell boats, my business can grow with theirs."

Tentila likes the informal relationship he has with Grumman. When customers have questions about production techniques, or a new boat model, he doesn't hesitate to call Grumman Boats.

"They're very good about answering all the questions I have," says Tentila. "With some manufacturers, you get the feeling that they don't have time to listen to individual concerns. But with Grumman Boats, it's like calling the guy next door."

"For any dealer, it's very important to have a company that protects your interest."

Grumman Boats has three full-time salespeople on its payroll. These employees oversee dealerships in the New England, Mid-Atlantic and Mid Western states. In addition, the company contracts six independent representatives to cover Southern and Western states. Nationwide, Grumman Boats has 700 dealers.

Beverly Brown, Grumman Boats' Mid-Atlantic sales person, is currently out pushing a fall incentive program to the 120 dealers in her territory. Grumman Boats offers dealers a discount if they ship their merchandise during the off-season. The program saves the dealers money and insures an ample supply of boats for the spring rush.

Brown is the only female sales person working in this business.

"I'm not one of the guys, but I'm part of the group," comments Brown. "A lot of the shops we deal with are owned by husband and wife teams, and it has helped our sales in many cases to have a woman explain the operation."

During 1984, sales at Grumman Boats increased 67 percent over the previous year. The unit also expanded production into Corcoran, California, and Arkadelphia, Arkansas, to more efficiently reach new markets. Innovative advertising and 24 new aluminum boat models increased total revenue from dealers by 35 percent last year.

"Basically, you have two types of dealers, regardless of the product line," says Tentila. "The old-style dealers sit back and sell their merchandise at the retail price and do very little to market a product. Innovative dealers, on the other hand, are willing to take a risk introducing new equipment and committing themselves to a growing company."

The demands placed on dealers vary from product to product. For instance, Pearson Yacht dealers must agree to always have boats in stock, spend a certain amount of money on product promotion and attend the introduction of new boat lines.

"For us, it's critical to get dealer support at local boat shows," says Peggy Ellis, dealer sales coordinator for the Pearson lines. "A dealer unwilling to make that commitment isn't very useful." It takes two years to become a bona fide dealer for Pearson Yachts.

While frequent phone contact is a must for the salesperson in the field, it is not enough to build a lasting relationship between company and dealer. Therein lies the bane of all salespeople: travel.

"It's an absolute requirement. You have to meet people face to face to be successful," says Brown, who is on the road 80 percent of the time.

Norton tries to combine several stops into one trip. Working his way through an area gives him a better sense of the region's needs and saves time. He also avoids many of the pitfalls of life on the road.

"After a while you realize more can be accomplished by catching up on paperwork at the motel than by eating popcorn in the bar," says Norton. "The bottom line for anyone in sales is this: pride and profit. If you beat the other guy out of a contract you're doing a pretty good job."■

What Makes ISI Run?

Innovative software insures growth for this Data Systems business

When the Hamond Companies of Lake Success, New York, purchased an insurance rating service from ISI Systems, its staff got more than it bargained for in several ways.

On the installation date the entire package arrived — not accompanied by a trained technician to put it together, but with an assembly manual.

"Everyone in the office did a double take," says Mary Lebold, an assistant vice president with the firm. "Most of our staff had never used a computer before and were afraid to touch anything, so I just rolled up my sleeves and went to work putting together the terminal. ISI provided instructions over the phone and within a few hours we were loading the machine with their software."

By that afternoon, Lebold was learning to use the Acc-U-Rate system to price insurance premiums. That was two years ago. Since then, the service has been expanded to keep pace with Hamond's needs. Every month the company receives updated software from ISI for its IBM XT computer. Hamond now operates two personal computer systems from ISI.

While adapting microcomputers for business is not unique, packaging such easy to use software for the insurance industry is. A Boston-based firm, ISI began in 1969 offering insurance companies doing business in Massachusetts computerized services to make policy processing faster and more accurate. In 1976, Grumman acquired the company as part of its Data Systems division. Since then, ISI has grown approximately 25 percent a year.

"If you look back on the history of ISI, you'll see that we have been successful at cutting through the red tape that has always strangled the insurance business," says Charles Johnston, founder and president of ISI.

Headquartered in Braintree, Massachusetts, ISI has developed three main software services: processing Massachusetts automobile policies; Personal Auto Assigned Risk System and the Acc-U-Rate line.

"People work their best when they have a personal stake in the success of a company. I wouldn't work any other way."

ISI's 260 people work at five locations across the United States. At sites in Bedford and Wilmington, Massachusetts, people develop and maintain the unit's various software packages and mainframe computer systems. Operations in Melville, New York and Minnetonka, Minnesota function as programming development centers.

Overall, ISI services more than 1.5 million automobile policies for 50 different insurance companies including Aetna, The Hartford and Firemans Fund. ISI now assists with commercial fleet policies in all 50 states and has designed systems to rate, bill and collect assigned risk policies in 15 states.

"We've always thought it was more important to address industry-wide problems than to pursue individual accounts," says Johnston. "We're interested in developing one super system that's flexible enough to be custom tailored."

That is precisely what ISI did in 1980 when it introduced the first Acc-U-Rate program. While most people were content to use personal computers at home, ISI was busy converting them into cost-saving business tools. Merging sophisticated software to price insurance with the simplicity of home computers made the system ideal for a store front operation, or a large corporation.

ISI has high hopes for the Acc-U-Rate line. During 1985, the unit expects its second consecutive year of 50 percent growth in Acc-U-Rate sales. Eventually, people here see the system providing ISI with as much revenue as its mainstay service — Massachusetts Automobile processing.

"We really don't see a limit to the growth we can achieve with this system," says Dennis Mitchell, vice president of the Acc-U-Rate line. "As P/C's become more sophisticated we'll continue to add capabilities to the product."

"If you look back on the history of ISI, you'll see that we have been successful at cutting through the red tape that has always strangled the insurance business."

When Acc-U-Rate was first marketed in 1980 only 10 percent of all independent insurance agencies used personal computers. By the end of 1985, that figure could jump to 75 percent. However, competition is tough. There are at least 50 to 60 other companies offering similar rating services.

Facing increasing competition and escalating overhead, Hamond sought a computer rating system with extensive storage capability.

"The bottom line on Acc-U-Rate is, it's the best tool available to make us more efficient," says Lebold. "Deciding to go with ISI was very easy. We heard of the system from other agencies and knew we were spending too much time on mundane tasks."

As an independent commercial lines agency, Hamond is paid a commission by the firms it files policies with. The 30-year-old agency deals with approximately 20 insurance companies and is involved in providing coverage for many of the bridges and tunnels in the New York City area.

Today Hamond account executive Bill Schwenk is meeting with a client who has just decided to change four deductibles on a fleet of commercial vans. He needs the information within the hour. In the past, such a request would interrupt the daily flow of work.

"Without Acc-U-Rate, we'd probably have a pretty tough time filling Bill's request in time for his meeting," says Gladys Ward, one of Hamond's raters. She says the system cut her previous workload by 70 percent.

Within a half hour, Schwenk has a clear printout and enough time for a cup of coffee before leaving the office. He no longer has to rush out with numbers scribbled on an envelope or note pad. In the future, he would like to use Acc-U-Rate as a marketing tool. By tracking potential clients, and scheduling follow-up calls, he will get maximum coverage in an area. The system can even remind him to send birthday cards — with a subtle reminder that it's time to think about life insurance.

"The bottom line on Acc-U-Rate is, it's the best tool available to make us more efficient."

Because of the rapid advances in computer technology, software that could once last four years is now obsolete in 12 to 18 months. Keeping ISI software ahead of the pack is the responsibility of Don Howey, vice president of systems development. Currently, he and his six researchers are working on packing more and more information capabilities into personal computers.

"Right now we're working on linking certain sales tools with the rating process and "windowing" — a program that puts information on the screen in boxes for easy use," says Howey.

In order to bring these advances to customers, Howey says it is not unusual to work on weekends to keep up with schedules. To motivate ISI people to put in those long hours Johnston uses an incentive program tied to the unit's performance.

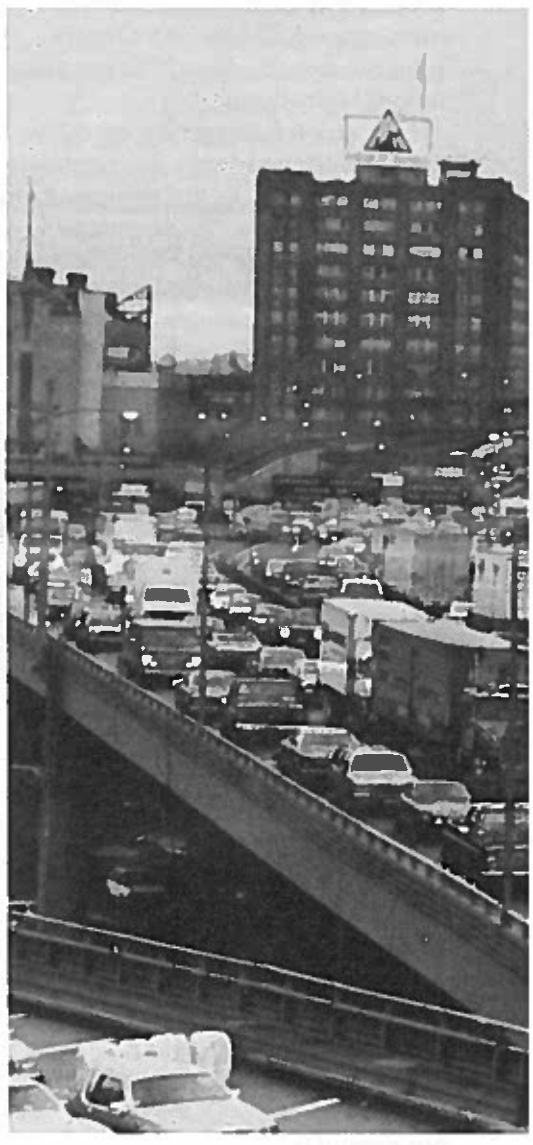
"The demands of the business are such that we need that extra push to give ISI the edge over everyone else," states Johnston. "People work at their best when they have a personal stake in the success of a company — I wouldn't work any other way."

He explains that at the beginning of each business year objectives and department plans are drawn up. From that master plan, individual performance goals are set and evaluated at year's end. Those who reach beyond ISI expectations are given a bonus.

"The system works because people help set goals for themselves and have input into our overall objectives for the year," continues Johnston. "Everyone from file clerks to vice presidents are involved and understand what we want to accomplish."

However, the incentive program works both ways. Those who fall below selected goals can earn less than expected. Generally, people working for ISI are attracted to it because of the bonus program.

"Certainly there are risks, but this is the insurance business," says ISI



Photos by Bob Settles / Fred Annette

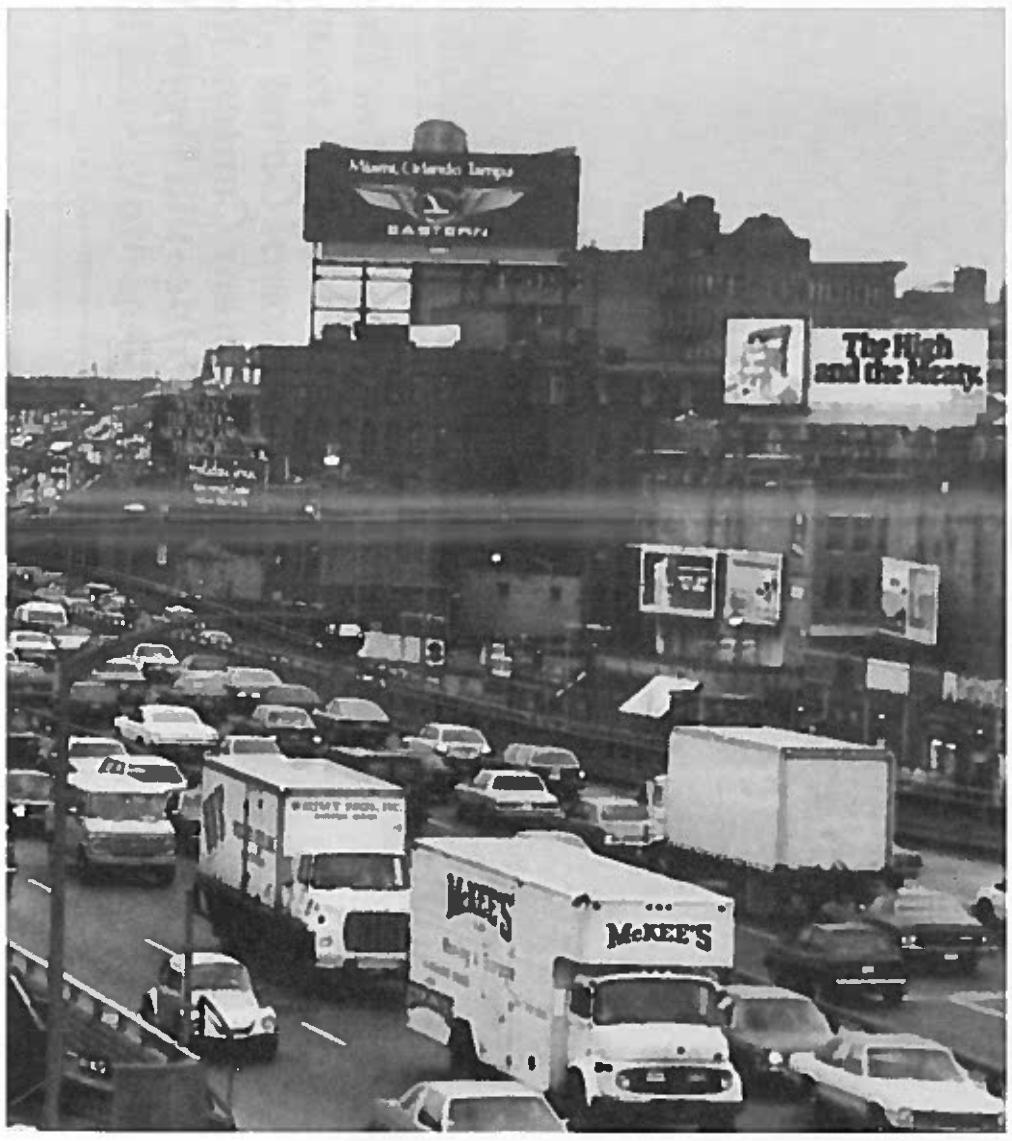
programmer John Mulroy. "Usually companies are not this progressive. ISI provides a good environment for young people. The incentives are there if you show the ability to get the job done."

Johnston sees personal computers changing the entire data network currently used by the insurance industry. Now geared toward a system that uses large centralized mainframe stations, microcomputers will help small insurance agencies produce information traditionally obtained from parent companies.

"ISI is selecting areas that it wants to be involved in over the long term," says Johnston. "As different industries look to make insurance investments, we'll be developing systems that will allow these various businesses to work together more efficiently." ■

Charles Johnston (above) says ISI's strong growth will continue. He formed ISI in 1969.

Good night Beantown. Greater Boston (below) heads home during rush hour. ISI processes more than 1.5 million auto insurance policies for 50 different companies. (Below, right) Hamond raters Arlene Russo (right) and Gladys Ward find the Acc-U-Rate system easy to use. (Left) Mary Lebold loads new ISI software into the machine.



Letters

There seems to be a current of resentment among the engineers at Grumman, resulting from the perception of management arrogance towards the workers.

It is either management arrogance or management blindness towards workers that causes raises to be slipped and the medical deductible to be increased by $150 per dependent during a corporate building boom.

The open door policy and pin meetings look good in theory but fail in practice. Answers to questions at pin meetings are not always satisfying — but they are not pursued, because of the rank of the person answering the question.

The open door policy poses the same problem. What can be gained by a subordinate debating corporate policy with the boss?...

Genuine concern for the worker must be shown in concrete terms so that the workers will feel that they are sharing in the corporate achievements. In this way they will be motivated to make Grumman a great corporation and a great place to work.

(Anonymous)

You're right — concern for our employees must be shown in concrete terms. That's why 40.6 percent over payroll is spent on employee benefits.

If your salary is $25,000 a year, there's an additional $10,150 that Grumman pays for your medical and dental plan, pension, disability insurance and life insurance, the investment plan, tuition reimbursement, and many other benefits.

Grumman's expansion program was undertaken to keep the company competitive — to provide the facilities, the tools, and the technology we need to do business in the 1980s.

And to be competitive, Grumman has to be able to attract and keep people with the talent and experience that we need — and our salary and benefits package is second to none.

All companies — particularly defense and aerospace companies — are concerned with cost containment. Since 1975, medical and hospital costs have tripled, far outpacing inflation. Twenty years ago, when the $100 deductible was in effect, a hospital bed on Long Island generally cost $30. That bed costs $500 today.

The most important aspects of health protection — those addressing financially castastrophic illnesses — are better today than they ever were. Grummanites and their families will continue to be covered for the bulk of their medical expenses.

The building expansion program has had absolutely no effect on the merit raise system.

And as for the open door policy and pin meetings — well, some people will always be shyer than others about saying what's on their minds.

But my door is always open.

Jack Bierwirth

Having worked in the Bethpage plants for 37 years, I agree that many of the Corporate safety rules and regulations are not being adhered to and create some very dangerous situations. In that regard, I am submitting the following suggestion.

The disregard in many instances for speed and traffic safety within company grounds and parking areas can be improved with the addition of "speed bumps." These tooth-rattling bumps with yellow stripes will slow any and all traffic. Signs indicating a bump could warn all drivers.

Being a boat owner, I find the bumps very effective in the marina where my boat is located.

Henry MacDonald, Retiree
Garden City, New York

Read with much interest your article on the new boat facility in Arkansas. As a new member of Grumman Data Systems, some of us at Grumman-CTEC are not aware of all the Grumman areas of business nor of any employee discount plans the company extends.

Could you put me in touch with someone in Grumman Boats who could furnish some jon and Bass boat specifications, prices, availability, discounts, etc.?

Don Daegele
McLean, Virginia

Grumman does provide a purchase program for its people covering more than 2,000 items, including aluminum boats. To obtain a catalog write to: Employee Services Office, Grumman Corporation, C09-111, Bethpage, New York 11714, or call them at (516) 575-3391. Catalog supplies are limited so please don't request more than one per department. If you prefer to purchase your boat closer to home, the Grumman Boats dealer for McLean, Virginia is: Washington Marina, 1300 Main Avenue, S.W., Washington, D.C., (202) 554-0222.

— Ed.

GrummanWorld

Vol. 4, No. 2, Spring 1985. Published quarterly for active and retired employees of Grumman Corporation, 1111 Stewart Ave., Bethpage, N.Y. 11714, W.B. Jones, vice president, public affairs.

Norine Lyons
editor – Ext. 53720

Jerry Mikorenda
associate editor – Ext. 53729

Mike Perangelo
associate editor – Ext. 54334

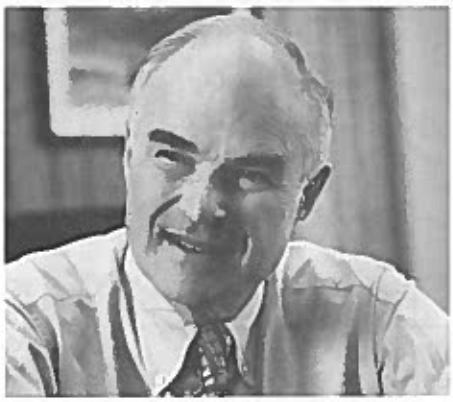
GrummanWorld™

Spring 1985

Composite photo by Rich Breunig

A Letter From The Chairman — Back Cover
X-29 Scores Four Perfect Flights — Page 1
Capitol Gains — Page 4
Repair Centers Rescue Fire Trucks — Page 6
Pride And Profit: Tale of A Sales Force — Page 8
What Makes ISI Run? — Page 10

A Letter From The Chairman



Last month Joe Gavin, George Skurla and I visited with Navy officials to explain how the new reorganization would work. Similar discussions have been held with Air Force, NASA, and Department of Defense officials. The reaction has been essentially one of interest and encouragement, but with a layer of natural curiosity.

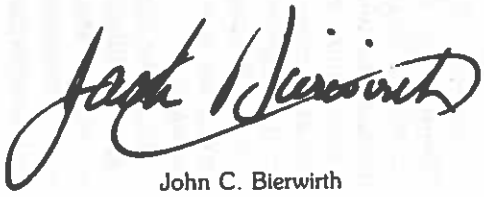
The human reaction is always this: Who am I going to be dealing with? The answer, of course is that the customer will not only be dealing with familiar people, but will in many cases also be meeting members of the new and younger Grumman management.

The encouragement reflects the recognized need in both the corporate and the governmental worlds to break old structures in order to simplify and bring costs down. The arrival of the computer and the introduction of modern telecommunications techniques promises the creation of corporate structures that should be more responsive, more agile and less costly than the old models with which we began our careers.

The new Grumman structure should be ready for these changes. Computers are arriving in Grumman at the rate of about 1,000 per year, and computer controlled production machinery is becoming the norm on the production floor. As we reach for the right configuration of our new structure, we must achieve much greater productivity per Grummanite. At the same time, we must show the responsiveness, the agility and the cost competitiveness that will win the competitions before us.

As we were leaving one Navy office, we were told, "You folks have showed how to control your costs even when you were producing planes at low rates. I'm sure you can make this new organization live up to all its promise."

I left the office feeling that we had earned this trust in our ability to get the job done. Cooperation and inventive adaptability will keep us in the "win" column.



John C. Bierwirth
Chairman

GrummanWorld
A22-111
1111 Stewart Avenue
Bethpage, NY 11714

Bulk Rate
U.S. Postage
Paid
Hicksville, NY
Permit No. 1110